



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,802	07/10/2001	Mei-Ling Wu	284867-00040	7917

7590 08/14/2003

Robert S. Klemz
Pietragallo, Bosick & Gordon
One Oxford Centre, 38th Floor
301 Grant Street
Pittsburg, PA 15219

EXAMINER

RESAN, STEVAN A

ART UNIT

PAPER NUMBER

1773

DATE MAILED: 08/14/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/901,802

Applicant(s)

WU ET AL.

Examiner

Stevan A. Resan

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 31-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8-20, 31-34 and 36-42 is/are rejected.
- 7) ☒ Claim(s) 3-7 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 1773

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 31-33,40,41,42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bray 6468642.

Bray was applied in the last office action as anticipating claims 31-33. Applicants have amended claim 31 to limit the thickness of the lubricating layer to less than 10 nm. However, Bray at Col 14 lines 44-47; 54-55 teaches that the coating thickness has no theoretical upper or lower limit. Therefore it would have been obvious to one of ordinary skill in the art to vary the coating thickness to provide the minimum thickness consistent with acceptable performance. For flexible substrates Bray discloses a range which has a minimum thickness of 5 nm. Bray also teaches that N may be used as an additional dopant for flexible substrates or precision edged substrates. (See Col 5 lines 56-67)

3. Claims 1,2,8-20,31-34,36-39,41,42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al US 5266409.

Schmidt et al was applied in the last office action. Applicants have amended the claims to limit the thickness of the lubricating layer to less than 10 nm. However the claims are still deemed obvious to one of ordinary skill in the art at the time of the invention for the reasons of record. Thickness of protective coatings in the magnetic recording art has long been held as a results effective variable. One of ordinary skill in the art varies the thickness to optimize the thickness to balance head spacing loss, durability, and signal/noise ratio.

Art Unit: 1773

4. Claims 3-7, 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Applicant's arguments filed 5-29-2003 have been fully considered but they are not persuasive.

Applicants argue that Bray teaches that a minimum thickness of 50 nm should be used. However the examiner disagrees. The thickness range cited by applicants is a preferable range. Bray is not limited to a preferable range. Note Col 14 lines 44-47 there Bray teaches that there is no theoretical limitation and Col 14 lines 55 where an example has a thickness range whose lower limit is 5 nanometers.

Applicants argue against the rejection based upon Schmidt et al on the basis that the disclosure in Schmidt et al of a preferable 500 angstrom thickness would not lead one to a thickness of less than 10 nm. However Schmidt is not limited to the thickness of preferred embodiments. Note at Col 16 lines 51-62 Bray teaches that thickness may be used as a results effective variable for destructive interference and when used for charge dissipation may be 50 angstroms thick (Col 16 line 23). Thickness of protective coatings in the magnetic recording art has long been held as a results effective variable. One of ordinary skill in the art varies the thickness to optimize the thickness to balance head spacing loss, durability, and signal/noise ratio.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 2001195723A is cited for teaching the invention as claimed.

Art Unit: 1773

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stevan A. Resan whose telephone number is (703) 308-4287. The examiner can normally be reached on Tues-Fri from 7:30AM to 6:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7718


STEVAN A. RESAN
PRIMARY EXAMINER